CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 79-144

NPDES NO. CA0037753

WASTE DISCHARGE REQUIREMENTS FOR:

SOUTHERN MARIN SUBREGIONAL SEWERAGE AGENCY ALSO
KNOWN AS SEWERAGE AGENCY OF SOUTHERN MARIN,
SANITARY DISTRICT NO. 5 OF MARIN COUNTY,
AND CITY OF BELVEDERE, MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:

1. Southern Marin Subregional Sewerage Agency is also known as Sewerage Agency of Southern Marin.

2. Sanitary District No. 5 of Marin County and Southern Marin Subregional Sewerage Agency (hereinafter dischargers) have applied for waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System (NPDES) by application dated **August 31, 1979.**

3. Sanitary District No. 5 of Marin County (District) entered into a joint power agreement with Southern Marin Subregional Sewerage Agency (SMSSA). Pursuant to the agreement:

   a. SMSSA assumes responsibility for transport and disposal of effluent from the treatment plant. Disinfection and dechlorination may be included in SMSSA's responsibility.

   b. The District will continue to operate its treatment plant and share responsibility with SMSSA for disposal of waste from that treatment plant.

4. The District has a contractual agreement with City of Belvedere. Pursuant to the agreement:

   a. The District is responsible for control of waste discharged to sewers and received at the treatment plant.

   b. City of Belvedere is responsible for waste discharged to its sewers and shares responsibility with the District for control of waste received at the treatment plant.

   c. City of Belvedere is responsible for paying its share of necessary treatment plant and outfall construction and operation costs.

5. The dischargers presently discharge municipal wastewater through an outfall near the shore of Raccoon Straits (37° 52' 20" latitude and 122° 26' 55" longitude).

6. The dischargers describe the existing discharge as follows:

   a. The dischargers treat sewage from the District's sewer system and the City of Belvedere.

   b. Average annual flow from the District's treatment plant is 0.64 million gallons per day (mgd). The sewage receives primary treatment.

Constituents	Milligrams per Liter (mg/l)	Pounds per Day
BOD	151	806
Suspended Solids	101	539

   c. There are no untreated sewage overflows or bypasses from the District's sewer system or treatment plant. Effects of infiltration and wet weather flows on the City of Belvedere sewer system are unknown.

7. A Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) was adopted by the Board in April 1975. The Basin Plan contains water quality objectives for Richardson Bay and Raccoon Strait.

8. The beneficial uses of Richardson Bay and Raccoon Strait are:

   a. Water contact recreation including wading, swimming and water skiing;

   b. Non-contact water recreation including picnicking, hiking, marine life study, bird watching, esthetic enjoyment, pleasure boating and marinas;

   c. Commercial and sport fishing;

   d. Wildlife habitat;

   e. Preservation of habitat for rare and endangered species;

   f. Marine habitat;

   g. Fish migration;

   h. Fish spawning;

   i. Shellfish and herring egg harvesting; and

   j. Navigation.

9. The Basin Plan prohibits the discharge of wastewater:

   a. To Richardson Bay unless the discharge is bayward of Sausalito and Peninsula Points; and

   b. To waters with less than 10:1 initial dilution.

10. The waste discharge is covered by Order Nos. 77-88, 78-95, and 79-106 adopted on July 19, 1977, November 21, 1978, and August 21, 1979, respectively.

11. The dischargers propose the following:

   a. The District's treatment plant will be rebuilt to provide secondary treatment for an average design flow of 0.91 mgd.

   b. A new transport pipeline and outfall will be built to discharge the treated waste into Raccoon Strait at a dillution of at least 10:1.

   c. City of Belvedere will survey its sewer system for wet weather sewage bypassing and excessive salt water infiltration and make all needed corrections.

12. Novato Sanitary District, as lead agency for the Eastern Marin and Southern Sonoma Wastewater Agencies which include the dischargers, requested an NPDES Permit time extension for construction of required facilities. This request was pursuant to Section 301(i)(1) of the Federal Water Pollution Control Act (FWPCA), as amended. The Board finds the request warranted and grants the time extension for compliance with Section 301(b) pursuant to Section 301(i) of the Act.

13. Novato Sanitary District as lead agency for Eastern Marin and Southern Sonoma Wastewater Agencies certified a final Environmental Impact Report (EIR) on September 17, 1979, for their wastewater management projects in accordance with the California Environmental Quality Act (Public Resources Code, Section 2100 et seq.). The members of this Regional Board have received and reviewed a summary of these documents.

14. The EIR specifies that this project could have the following adverse impact on the environment:

   Construction could result in erosion problems.

15. Exposed cut slopes will be reseeded to mitigate the adverse impacts of Finding 14.

16. The Board has notified the dischargers, City of Belvedere, and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

17. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder and to the provision of the Federal Water Pollution Control Act, as amended, and regulations and guidelines adopted thereunder, that the dischargers (and where specified, City of Belvedere) shall comply with the following:

A. Prohibitions

1. The discharge of wastewater at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited (receiving water to wastewater flow).

2. The dischargers and City of Belvedere are prohibited from bypassing or overflowing untreated wastewater to waters of the United States, either at the plant or from the collection systems.

3. The dischargers and City of Belvedere shall eliminate and/or prevent any discharge or infiltration to the sewers of waste which threatens to cause treatment plant upset.

4. The average dry weather flow shall not exceed 0.91 mgd. Average shall be determined over three consecutive dry weather months each year.

B. Effluent Limitations

1. The chlorine residual of the discharge shall not exceed 0.0 mg/l.

2. The waste as discharged, or at some place in the treatment process, shall meet the following limits of quality:

> The total coliform bacteria for a median of five consecutive effluent samples shall not exceed 240 per 100 milliliters. Any single sample shall not exceed a most probable number (MPN) of 10,000 total coliform bacteria per 100 milliliters when verified by a repeat sample taken within 48 hours.

3. Representative samples of the effluent shall not exceed the following limits more than the percentage of time indicated:[1/]

Constituent	Unit of Measurement	50% of time	10% of time
a. Arsenic	mg/l (kg/day)	0.01 (0.034)	0.02 (0.069)
b. Cadmium	mg/l (kg/day)	0.02 (0.069)	0.03 (0.103)
c. Total Chromium	mg/l (kg/day)	0.005 (0.017)	0.01 (0.034)
d. Copper	mg/l (kg/day)	0.2 (0.689)	0.3 (1.033)
e. Lead	mg/l (kg/day)	0.1 (0.344)	0.2 (0.689)
f. Mercury	mg/l (kg/day)	0.001 (0.003)	0.002 (0.007)
g. Nickel	mg/l (kg/day)	0.1 (0.344)	0.2 (0.689)

[1/] These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

Constituent	Unit of Measurement	50% of time	10% of time
h. Silver	mg/l (kg/day)	0.02 (0.069)	0.04 (0.138)
i. Zinc	mg/l (kg/day)	0.3 (1.033)	0.5 (1.721)
j. Cyanide	mg/l (kg/day)	0.1 (0.344)	0.2 (0.689)
k. Phenolic Compounds	mg/l (kg/day)	0.5 (1.721)	1.0 (3.443)
l. Total Identifiable Chlorinated Hydro-carbons	mg/l (kg/day)[2/]	0.002 (0.007)	0.004 (0.014)

[2/] Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, Chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

4. Prior to the termination of discharge at its present location, the following interim limitations shall apply to the discharge:

Any grab sample:

a. Settleable Matter

The arithmetic average of any 6 or more samples collected on any day	0.5 ml/l-hr. max.
80% of all individual samples collected during maximum daily flow over any 30-day period	0.4 ml/l-hr. max.
Any sample	1.0 ml/l-hr. max.

b. pH

	8.5 max.
	6.5 min.

5. The discharge of an effluent to the transport pipeline and new outfall containing constituents in excess of the following limits is prohibited:

Constituents	Units	30-day Average	7-day Average	Daily Maximum
a. BOD	mg/l	30	45	60
	lbs/day	776		3002
	kg/day	352		1362
b. Suspended Solids	mg/l	30	45	60
	lbs/day	776		3002
	kg/day	352		1362
c. Oil & Grease	mg/l	10	-	20
	lbs/day	259		1001
	kg/day	117		454
d. Settleable Solids	ml/l/hr	0.1	-	0.2

e. The survival of an acceptable test organism in 96-hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50 percent survival.

f. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.

6. The arithmetic mean of the biochemical oxygen demand and suspended solids values, by weight, for effluent samples of wastewater discharged to the transport pipeline and new outfall that are collected in a period of 30 consecutive calendar days, shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85% removal).

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

a. Floating, suspended, or deposited macroscopic particulate matter or foam;

b. Bottom deposits or aquatic growths;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen	5.0 mg/l minimum. Annual median - 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	Dissolved sulfide	0.1 mg/l maximum.
c.	pH	Variation from natural ambient pH by more than 0.2 pH units.

d.	Un-ionized Ammonia as N	0.025 mg/l annual median 0.4 mg/l maximum
e.	Nutrients	50 ug/l chlorophyll a maximum. When background levels exceed this requirement, then this discharge shall not add further nutrients.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The dischargers and City of Belvedere shall comply with the following time schedule to achieve compliance with Prohibition A.1; Effluent Limitations B.3.i, B.5 and B.6; Receiving Water Limitations C.1.a, C.1.c, C.2.c, C.2.d and C.2.e.

Task	Completion Date
a. Receive Concept Approval and Step 2 Grant Approval	October 24, 1979
b. Authorize Step 2 Engineering	November 15, 1979
c. Begin Design	December 1, 1979
d. Submit Design to SWRCB for 10% Review	February 15, 1980
e. City of Belvedere Authorize Bond Counsel to Proceed	March 1, 1980
f. City of Belvedere File for Bond Election	April 1, 1980
g. Submit Plans to SWRCB for 50% Design Review and Land Appraisal	June 1, 1980
h. City of Belvedere Hold Bond Election	June 15, 1980
i. Submit Completed Plans and Specs of all Facilities Necessary to Achieve Compliance and Draft O&M Manual to the SWRCB for Approval	November 1, 1980
j. City of Belvedere Advertise for Bids on the Bonds	November 1, 1980

Task	Completion Date
k. Receive Approval from SWRCB to call for Construction Bids	December 15, 1980
l. City of Belvedere Receive Bond Bids	January 1, 1981
m. Advertise for Construction Bids	January 1, 1981
n. Receive Construction Bids, Submit Bids to SWRCB for Approval	February 15, 1981
o. Receive Approval from SWRCB to Award Construction Contract	April 1, 1981
p. Begin Construction	May 1, 1981
q. Complete Construction	May 1, 1983
r. Full Compliance	July 1, 1983

2. The dischargers and City of Belvedere shall comply with the following time schedule to achieve compliance with Prohibition A.2. and A.3.

Task	Completion Date
a. Complete investigations necessary to determine cause and correction needed to prevent excessive salt water infiltration and wet weather sewer flows from causing overflow or bypassing	April 1, 1980
b. Submit description of actions necessary to achieve compliance and schedule of their completion dates	May 1, 1980
c. Document availability of funding for corrective actions	January 1, 1981
d. Adopt sewer ordinances that are acceptable to the Executive Officer for both sewer service areas.	January 1, 1982
e. Full compliance	July 1, 1983

3. The dischargers are required to provide to the Board by January 15, 1980, and quarterly thereafter, a report on progress toward compliance with Provisions D.1. and D.2 of this Order.

4. This Order supersedes the requirements prescribed in Order Nos. 77-88 78-95 and 79-106. Order Nos. 77-88, 78-95, and 79-106 are rescinded.

5. The dischargers shall review and update their contingency plan annually as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the dischargers have failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

6. The dischargers shall comply with a Self-Monitoring Program as ordered by the Executive Officer.

7. The dischargers shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977.

8. In reviewing compliance with the limits of Effluent Limitation B.6 of this Order, the Board will take special note of the difficulties encountered in achieving compliance during periods of high wet weather flow.

9. This Order expires October 1, 1984. The dischargers must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9, of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

10. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 16, 1979.

FRED H. DIERKER
Executive Officer

Attachments:
Standard Provisions, Reporting
Requirements & Definitions (April 1977)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

T E N T A T I V E

SELF-MONITORING PROGRAM
FOR

SMSSA

Sanitary District No. 5

Main Plant

NPDES NO. CA 0037753

ORDER NO. 79-144

CONSISTS OF

PART A

AND

PART B

PART B

SMSSA and
Sanitary District No. 5 - Main Plant

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

Station	Description
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be same as E-001-D)
E-001-D	At any point in the disinfection facilities for Waste E-001, at which point adequate contact with the disinfectant is assured.

C. RECEIVING WATERS

Station	Description
C-1	At a point in Raccoon Strait, located approximately 150 feet northerly from the point of discharge.
C-2	At a point in Raccoon Strait, located in the discharge boil.
C-3	At a point in Raccoon Strait, located along the northeasterly side of Elephant Rock, a fishing stand.
C-4	At a point in Raccoon Strait, located approximately 150 feet southerly from the point of discharge.
C-R-1	At a point in Raccoon Strait, located approximately 500 feet northerly form the point of discharge.
C-R-2	At a point in Raccoon Strait, located approximately 500 feet southerly from the point of discharge.
CRS-1	At a point in Raccoon Strait, located at the point of discharge from the common outfall.

Station (con't)	Description
CRS-2	At a point in Raccoon Strait, located approximately 150 feet northerly from the point of discharge from common outfall.
CRS-3	At a point in Raccoon Strait, located approximately 150 feet southerly from the point of discharge from the common outfall.
CRS-4	At a point in Raccoon Strait, located approximately 500 feet northerly from the point of discharge from the common outfall.
CRS-5	At a point in Raccoon Strait, located approximately 500 feet southerly from the point of discharge from the common outfall.

D. LAND OBSERVATIONS

Station	Description
P-1 through P-'n'	Located at the corners and midpoints of the perimeter fenceline surrounding the treatment facilities. (A sketch showing the locations of these stations will accompany each report)

E. OVERFLOWS AND BYPASSES

Station	Description
O-1 thru O-"n"	Bypass or overflows from manholes, pump stations or collection system.
	Note: Initial SMP report to include map and description of each known bypass or overflow location
Reporting -	Shall be submitted monthly and include date, time and period of each overflow or bypass

II. SCHEDULE OR SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given as Table I.

B. The stations CRS-1 through CRS-5 will not be sampled until common outfall is used.

III. NON-APPLICABLE PARAGRAPHS OF PART A

A. Does not include the following paragraphs of Part A:

C-3
C-4
C-5: c,d

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 79-144.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

FRED H. DIERKER
Executive Officer

Attachment: Table I

Effective Date: _____

TABLE I

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001		E-001			E-001-D			C Sta.	CRS Sta.	P Sta.	Sta.
TYPE OF SAMPLE	G	C-24	G	C-24	Cont	G	C-24	Cont	G	G	O	O
Flow Rate (mgd)		D			D							
BOD, 5-day, 20° C, (mg/l & kg/day)		2W		W								
Chlorine Residual & Dosage (mg/l & kg/day)						2/D						
Settleable Matter (ml/1-hr.)			D									
Total Suspended Matter (mg/l & kg/day)		2W		W								
Oil & Grease (mg/l & kg/day) (2)	3M		2M									
Coliform (Total) (MPN/100 ml) per req't						3/W			M	M		
Fish Toxicity, 96-hr. TL_{50} % Survival in undiluted waste							3M					
Ammonia Nitrogen (mg/l & kg/day)				2/Y					Y	Y		
Nitrate Nitrogen (mg/l & kg/day)												
Nitrite Nitrogen (mg/l & kg/day)												
Total Organic Nitrogen (mg/l & kg/day)												
Total Phosphate (mg/l & kg/day)												
Turbidity (Nephelometric Turbidity Units)									M	M		
pH (units)			D						M	M		
Dissolved Oxygen (mg/l and % Saturation)									M	M		
Temperature (°C)									M	M		
Apparent Color (Visual)									M	M		
Secchi Disc (inches)												
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)									M	M		
Arsenic (mg/l & kg/day)				3M								
Cadmium (mg/l & kg/day)				3M								
Chromium, Total (mg/l & kg/day)				3M								
Copper (mg/l & kg/day)				3M								
Cyanide (mg/l & kg/day)				3M								
Silver (mg/l & kg/day				3M								
Lead (mg/l & kg/day)				3M								

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001		E-001			E-001-D			C Sta.	CRS Sta.	P Sta.	O Sta.
TYPE OF SAMPLE	G	C-24	G	C-24	Cont	G	C-24	Cont	G	G	O	O
Mercury (mg/l & kg/day)				3M								
Nickel (mg/l & kg/day)				3M								
Zinc (mg/l & kg/day)				3M								
PHENOLIC COMPOUNDS (mg/l & kg/day)				3M								
All Applicable Standard Observations			D						M	M	M	E
Bottom Sediment Analyses and Observations												
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)				3M								
Un-ionized Ammonia as N (mg/l)									Y	Y		

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours (used when discharge does not continue for 24-hour period)
Cont = continuous sampling
DI = depth-integrated sample
BS = bottom sediment sample
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations
B = bottom sediment stations
G = groundwater stations

FREQUENCY OF SAMPLING

E = each occurence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/Y = once in March and once in September
Q = quarterly, once in March, June, Sept. and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

Footnotes next page

Footnotes to Table I

1. CRS station sampling to commence upon discharge through common outfall.

2. Oil and Grease sampling shall consist of 3 grab samples taken at equal hour intervals during the sampling day.